

Influence of motivation to learn on adolescents' quality of life and school performance: A protocol for a systematic review with meta-analysis

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ABSTRACT

Purpose: to verify the relationship between motivation to learn and the quality of life and academic performance of middle-school adolescents.

Methods: the review will be based on international guidelines. The PEO (Population, Exposure, Outcome) strategy was used to develop the research question, and eligibility criteria were established. The MEDLINE (via PubMed), Scopus, and Web of Science databases will be consulted with the respective search equations. Evaluators will independently follow some steps to select the studies. Data will be extracted with a specific instrument. Protocols according to the study type will be used to assess the methodological quality or risk of bias of the studies. The results will be analyzed and presented both qualitatively and quantitatively.

Final Considerations: this study will analyze the pieces of research on the topics in question, identifying existing gaps and enabling closer observation of the available evidence to guide educational practices and action planning aimed at promoting health for adolescent students.

Keywords: Adolescent; Health; Quality of Life; Motivation; Academic Performance

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INTRODUCTION

Motivation to learn is essential to child and adolescent development and the school setting, as information processing depends on the integration of various cognitive skills and subjective factors, such as emotional and behavioral ones. Motivation can be ascribed to the presence or absence of willingness, driven by need and stimuli¹, which can be self-generated, lead to commitment, faster thinking, and paced activity to reach goals without necessarily waiting for external stimuli^{1,2}.

Factors related to mental health and behavior combined with motivation to learn can influence adolescents' educational process³. The concept of quality of life based on new health and illness paradigms encompasses complex and multifactorial processes related to personal experiences and lifestyle and is a way of guiding care practices and public policies for collective health^{4,5}. Thus, quality of life is a subjective construct and can be understood as an individual's perception of their position and the context in which they live in relation to their goals and expectations⁶. This topic is of special interest when it is admitted that school performance⁷⁻⁹ is not random; rather, it results from factors such as learning conditions and students' capacity and can be harmed by problems with physical, psychological, and emotional health and social relationships¹⁰.

Because children's and adolescents' quality of life and motivation to learn impact their functioning, they must be studied in the school setting – a field conducive to the development of cognitive, emotional, and social skills and the promotion of health. Therefore, this study aims to verify the relationship between motivation to learn and the quality of life and academic performance of middle-school adolescents.

Review question

Is adolescents' motivation to learn associated with their quality of life and academic performance in middle school?

METHODS

This protocol was submitted to the National Institute for Health Research – International Prospective Register of Systematic Reviews (PROSPERO)¹¹, under registry CRD42021247843. The systematic review of the literature is based on the Joanna Briggs Institute (JBI) guidelines¹², and the results will be presented according to international guidelines, following the recommendations of the Preferred Reporting Items for Systematic Reviews and Meta-Analysis Protocols (PRISMA-P)^{13,14}.

Inclusion criteria

Participants

The Population, Exposure, and Outcome (PEO) strategy was used to develop the research question – the Population will be middle-school adolescents; the Exposure will be the assessment of motivation to learn with standardized or validated instruments, qualitative studies on motivation to learn, and strategies for increasing motivation to learn in adolescents; the Outcome will be the assessment of quality of life and/or school performance.

The inclusion and exclusion criteria and phenomena of interest will be as follows (Chart 1):

Chart 1. Eligibility of studies and phenomena of interest

Topics/ Criteria	Population	Exposure	Outcome
Inclusion criteria	<ul style="list-style-type: none"> - Adolescents(*) - Middle school 	<ul style="list-style-type: none"> - Assessment of the motivation to learn - Standardized or validated instruments - Qualitative studies on the motivation to learn - Strategies to improve adolescents' motivation to learn 	<ul style="list-style-type: none"> - Assessment or intervention in motivation to learn related to quality of life - Assessment or intervention in motivation to learn related to school performance - Assessment or intervention in motivation to learn related to quality of life and school performance
Exclusion criteria	<ul style="list-style-type: none"> - Samples of individuals with neurodivergence, specific learning disorders, or cognitive, neurological, or psychiatric changes. 	<ul style="list-style-type: none"> - Study of motivational aspects in other areas of adolescents' lives, such as sports activities. 	<ul style="list-style-type: none"> - Use of quality-of-life instruments specific to chronic diseases - Specific/global psychology therapy results - Drug therapy results

(*) According to data on adolescent health provided by the Brazilian Ministry of Health. Ministério da Saúde. Secretaria de Atenção à Saúde. Área de Saúde do Adolescente e do Jovem. Marco legal: saúde, um direito de adolescentes / Ministério da Saúde, Secretaria de Atenção à Saúde, Área de Saúde do Adolescente e do Jovem. – Brasília: Editora do Ministério da Saúde, 2007. 60 p.: il. – (Série A. Normas e Manuais Técnicos)

Concerning the Population, the review will include studies in middle-school adolescents of both sexes, of any socioeconomic class, assessing their motivation to learn, academic performance, and quality of life. It will exclude studies in adolescents with neurodivergence, specific learning disorders, or cognitive, neurological, or psychiatric changes.

In terms of Exposure, it will include articles that used and/or analyzed instruments to evaluate aspects related to motivation to learn and discussed individual, group, or community intervention strategies to increase motivation to learn in adolescents. It will exclude studies on motivational aspects in other areas of adolescents' lives, such as sports activities.

As for the Outcome, the review will include studies in adolescents addressing variables related to motivation to learn related to quality of life and school performance. As a secondary outcome, it will analyze the influence of motivation to learn on the quality of life and academic performance of middle-school adolescent students belonging to different socioeconomic contexts. It will exclude studies using quality-of-life instruments specific to chronic diseases and with specific/global psychology therapy or drug therapy results.

Study types

Cross-sectional and longitudinal observational studies will be included, with no limitations on publication date or language.

Search strategy and sources of information

The equations were applied to the electronic databases of the Medical Literature Analysis and Retrieval System Online (MEDLINE, USA) via PubMed (US National Library of Medicine), Expertly Curated Abstract & Citation Database (Scopus), and Web of Science to search for scientific articles without date restrictions. Unpublished studies (grey literature) were searched in the BDTD (Brazilian National Library of Theses and Dissertations) and ProQuest international database. Original research articles that answer the research question will be selected for the study. The article analysis will observe and disregard research without human beings and with age groups, educational segments, and outcomes different from the research question. Records such as book chapters, letters to the editor, and case reports were also excluded (Chart 2).

Chart 2. Search strategies for articles and the grey literature

Database	Search strategy	Results
MEDLINE via PubMed	((("Quality of Life" OR "Self Concept" OR Motivation)) AND ((Underachievement OR "Academic Performance" OR "Academic Failure"))) AND ((Juventud OR Adolescence OR Youth))	1,107 articles
Scopus	("Quality of Life" OR "Self Concept" OR motivation) AND (underachievement OR "Academic Performance" OR "Academic Failure") AND (child OR adolescent OR adolescence OR youth)	1,525 articles
Web of Science	("Quality of Life" OR "Self Concept" OR motivation) AND (underachievement OR "Academic Performance" OR "Academic Failure") AND (child OR adolescent OR adolescence OR youth)	1,299 articles
BDTD	("Qualidade de Vida" OR "Qualidade de Vida Relacionada à Saúde" OR autoimagem OR autopercepção OR "autopercepção de saúde" OR motivação OR motivação para aprender OR "Quality of Life" OR "Self Concept" OR motivation) AND ("Baixo Rendimento Escolar" OR "Desempenho Acadêmico" OR "desempenho escolar" OR "sucesso escolar" OR "Fracasso Acadêmico" OR "Fracasso Escolar" OR "Serviços de Saúde Escolar" OR "Saúde na escola" OR "Rendimiento Escolar Bajo" OR "Rendimiento Acadêmico" OR "Fracaso Escolar" OR underachievement OR "Academic Performance" OR "Academic Failure") AND (criança OR niño OR child OR crianças OR niños OR adolescente OR adolescent OR adolescentes OR jovem OR jovens OR adolescência OR juventude OR joven OR jóvenes OR adolescencia OR juventud OR adolescence OR youth)	404 dissertations and theses
ProQuest	("Quality of Life" OR "Self Concept" OR motivation) AND (underachievement OR "Academic Performance" OR "Academic Failure") AND (child OR adolescent OR adolescence OR youth)	1,240 dissertations and theses

Study selection

The review will follow specific stages to obtain results and analyze data. The first stage will be completed by three evaluators who, independently, will read the titles and abstracts of the selected articles, based on the inclusion and exclusion criteria set out in the PEO table. Then the Rayyan application¹⁵, developed by QCRI (Qatar Computing Research Institute), will be used for the independent reading stage, in which two evaluators will classify the articles as "Include", "Exclude", or "Maybe". Then, a consensus meeting will be held to determine which articles will be included for full-text reading and decide which ones are eligible for the systematic review analysis. The results will be presented using the PRISMA method as a reference.

Assessment of the methodological quality

The analysis of the methodological quality or risk of bias will use JBI protocols¹⁶. This institute develops and provides evidence-based information, software, education, and training to improve health practices and results according to study types, namely:

- Cross-sectional observational studies will be evaluated with the Analytical Cross-Sectional Studies Checklist, which has eight objective questions that can be answered with Yes, No, Unclear, or Not applicable.
- Longitudinal observational studies will be subjected to methodological quality analysis based on the Cohort Studies Checklist, which has 11 objective questions that can be answered with Yes, No, Unclear, or Not applicable.

All studies, regardless of their methodological quality, will have their data extracted. Studies whose quality assessment is less than 60% will be excluded from the data synthesis.

Data extraction

Study data, such as author, year of publication, country, design, sample, participants' age range, study objectives, variables, instruments, main results, and other observations will be entered into a spreadsheet (Chart 3).

Chart 3. Data extraction instrument

Article	Author	Year of publication	Local	Design	Sample	Age range	Objectives	Variables	Instruments used	Main results	Other observations

Data analysis and presentation

Data will be synthesized both qualitatively and quantitatively. The former will be based on a narrative synthesis of elements related to adolescents' emotions and behaviors in school situations and the learning process.

The quantitative synthesis will verify the possibility of a meta-analysis of statistical data from quantitative studies characterizing participants and evaluating the quality of life and motivation to learn. The RevMan software 5.4.1 (Copenhagen: The Nordic Cochrane Center) and its respective measurement parameters and effect sizes will be used to assess the quality of the evidence and discuss the weaknesses, strengths, and relevance of the proposed review.

DISCUSSION

This systematic literature review focuses on studies on middle-school adolescents' motivation to learn, quality of life, and academic performance. It will relevantly retrieve national and international evidence on the topics involved, with systematic quality assessment of studies, minimizing methodological biases, and generating a synthesis of existing evidence.

The analysis of results may help bring the knowledge about health and basic education closer together. This is an important dimension of the quality of life of children and adolescents¹⁷⁻²⁰, useful to reach situational diagnoses and develop strategies to improve adolescents' education and indicate the direction for further research.

The proposed protocol has, as its differential, the focus on students in the peculiar age group of adolescence, considering the triangulation between the relevant aspects mentioned above. The analysis of results may help bring the knowledge on health and basic education closer together. This is an important dimension of the quality of life of children and adolescents¹⁷⁻²⁰, useful to reach situational diagnoses and develop strategies to improve adolescents' education and indicate the direction for further research.

FINAL CONSIDERATIONS

This protocol followed international guidelines for this study type. The development of this study will bring to light the worldwide studies on the topics involved, identifying existing gaps, and providing more detailed observation and analysis of the available evidence to guide educators and administrators regarding educational practices and action planning to motivate adolescent students.

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GNAF: conceptualization, design, data analysis and interpretation, article writing and critical review, approval of the final version of the manuscript.

CSFS; RSMP: data analysis, approval of the final version of the manuscript.

SMAL: conceptualization, design, data interpretation, article writing and critical review, approval of the final version of the manuscript.